

IN THE CLAIMS

1 -23 (canceled)

24 (new) A method for the decoration of a porous ceramic substrate, comprising
:

- 1) applying a colorant composition comprising a colorant material and a carrier on at least a portion of a ceramic substrate having surface microporosities, such that said colorant composition penetrates the pores of said ceramic substrate;
- 2) applying a hardenable resin on the treated portion of the ceramic substrate,
- 3) polymerizing or drying said hardenable resin to fix the colorant material to the ceramic substrate.

25 (new) The method according to claim 24, wherein said colorant material is a pigment or dye suitable for application on ceramic substrates.

26 (new) The method according to claim 24 comprising the application of a pigment dispersed in a volatile dispersing agent.

27 (new) The method according to claim 24, wherein said pigment comprises a pigment selected from natural, organic, effect pigments such as metallic, metallescent, micalized pigments and their mixtures.

28 (new) The method according to claim 24, wherein said application phase is carried out by means of a manual technique selected from pads, brushes, aerographs, or a non-manual technique selected from flexography, screen-printing, gravure printing, digital printing, offset printing, roller coating, curtain coating, spray, vacuum.

29 (new) The method according to claim 24, wherein it comprises an intermediate drying phase of the dye or pigment applied.

30 (new) The method according to claim 24, wherein it comprises a final polishing phase of the decorated ceramic substrate.

31 (new) The method according to claim 24, wherein said hardenable composition is a photo-curable resin or a composition curable with ultraviolet rays (UV).

32 (new) The method according to claim 24, wherein said irradiation is effected by exposure to an electromagnetic radiation with a wavelength ranging from 100 to 780 nm.

33 (new) The method according to claim 32, wherein said irradiation is effected by exposure to UV-VIS rays.

34 (new) The method according to claim 31, comprising the application of a quantity ranging from 0,1 to 25 g/m² of said photo-curing composition on the substrate to be treated.

35 (new) The method according to claim 31, wherein said photo-curing composition comprises a prepolymer selected from radicalic systems, cationic systems and their mixtures.

36 (new) The method according to claim 35, wherein said prepolymer is a radicalic system selected from the group consisting of unsaturated polyesters, epoxy acrylates, urethane acrylates, aromatic urethanes, aliphatic urethanes, polyester acrylates, polyether acrylates, acrylic acrylates and their mixtures.

37 (new) The method according to claim 35, wherein said prepolymer is a cationic system selected from the group consisting of epoxy monomers, epoxy oligomers, polyols, vinyl-ethers, glycols and their mixtures.

38 (new) The method according to claim 31, wherein said curing composition further comprises one or more reactive diluents and/or additives selected from the group consisting of adhesion promoters, wetting agents, surface-active agents, light stabilizers, bactericides, fluorinated monomers, abrasion resistance additives,

dispersing agents, viscosity modifiers, fillers, pigments, polymerization inhibitors, stabilizers.

39 (new) The method according to claim 31, wherein said curing composition comprises at least one photoinitiator.

40 (new) The method according to claim 39, wherein said photo-initiator is selected from the group consisting of alpha-hydroxyketones, alpha-aminoketones, acylphosphinoxides, thioxantones, benzophenones, oxymesters, anthracenes, benzyl-dimethyl-ketals, benzoin ethers, amines and their mixtures.

41 (new) The method according to claim 24 wherein the application and curing phases by means of irradiation are repeated two or three times on the same ceramic substrate.

42 (new) The method according to claim 24 comprising a preliminary treatment phase of said ceramic substrate with a solution at acid pH.

43 (new) The method according to claim 24, wherein the hardenable composition is selected from the group consisting of waterborne and solvent based Alkyd resin (e.g. Synolac, Gelkyd, Unithane, Synaqua – CRAY VALLEY; Uralac, Urathix, Uradil – DSM; Alkydal – BAYER; Laropal – BASF; Vialkyd, Daotan, Resydrols – VIANOVA), waterborne and solventbased Acrylics; waterborne, solventbased or 2-pack Epoxies, waterborne and solventbased Saturated polyesters, waterborne, solventbased or 2-pack Polyurethanes, Phenolic resins or phenolplasts and their mixtures.

44 (new) A method for the decoration of a porous ceramic substrate, which comprises:

A) applying a hardenable coloring composition comprising a colorant material and a hardenable resin on at least a portion of a ceramic substrate having surface microporosities, such that said hardenable coloring composition penetrates the pores of said ceramic substrate;

B) polymerizing or drying said hardenable coloring composition to firmly fix the colorant material to the decorated ceramic substrate.

45 (new) The method according to claim 43, wherein the hardenable coloring composition is a photocurable resin.

46 (new) The method according to claim 43, wherein the hardenable composition is selected from the group consisting of waterborne and solvent based Alkyd resin (e.g. Synolac, Gelkyd, Unithane, Synaqua – CRAY VALLEY; Uralac, Urathix, Uradil – DSM; Alkydal – BAYER; Laropal – BASF; Vialkyd, Daotan, Resydrols – VIANOVA), waterborne and solventbased Acrylics (e.g. GLASCOL – Ciba Specialty Chemicals; waterborne, solventbased or 2-pack Epoxies, waterborne and solventbased Saturated polyesters, waterborne, solventbased or 2-pack Polyurethanes, Phenolic resins or phenoplasts and their mixtures.